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LEGISLATIVE AND STATE EMPLOYEE SERVICES NEWSLETTER FALL 2007

SUPERBUGS - SUPER SCARY??

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"I Read the News Today, Oh Boy..."

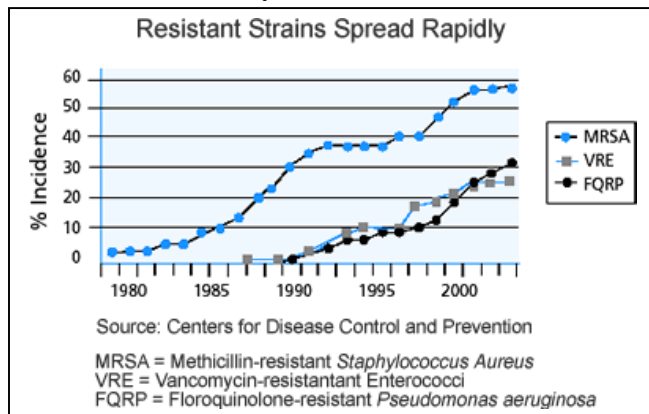
Lately the media has been filled with frightening stories about MRSA, an antibiotic-resistant staph infection, causing untimely deaths, prompting school closures, and panicking citizens across the country. What is behind the increasing prevalence of this latest so-called superbug? How might legislators play a role in addressing the situation? And what are the best safeguards against contracting such an infection? With this issue of *Timely Topics* we aim to spread our own information virus...

What exactly is...

MRSA. Methicillin-resistant *Staphylococcus aureus* is a strain of staph that has become resistant to treatment with antibiotics, including penicillin, amoxicillin, oxacillin, methicillin and others. **Healthcare-associated MRSA (HA-MRSA)** infections occur most frequently among persons in hospitals and healthcare facilities (such as nursing homes and dialysis centers) who have weakened immune systems. **Community-Associated MRSA (CA-MRSA)** infections are acquired by persons who have not been recently (within the past year) hospitalized or had a medical procedure (such as dialysis, surgery, catheters). There seems to be a prevalence of CA-MRSA among certain sectors of the population, including athletes, military recruits, children, and prisoners. Since a picture can be worth a thousand words, the FDA's Center for Veterinary Medicine produced an animation demonstrating how antimicrobial resistance both emerges and proliferates among bacteria – <http://www.fda.gov/cvm/antiresistvideo.htm>

What's behind the trend

Actually, despite the recent buzz, antibacterial resistance is not a new phenomenon. Penicillin was first mass-produced in 1943, and by 1947, the first strain of penicillin-resistant staph had been identified. (Governing, 5/07). What is new, though, are statistics on the incidence of MRSA. A report published in the 10/17/2007 issue of *JAMA* (see *Statistically Speaking*) provided the first set of estimates on MRSA cases on a national level, and the figures were surprisingly higher than thought. 94,000 serious infections and nearly 19,000 deaths each year result from MRSA.



What factors are attributing to this?

- Inappropriate use of antibiotics by patients and doctors. Failure to take a complete prescription, taking antibiotics prescribed for somebody else, and too freely prescribing antibiotics are practices that kill off weaker bacteria, paving the way for more resistant bacteria to grow and reproduce.
- The overuse of antibiotics in agriculture. Antibiotics are routinely used in



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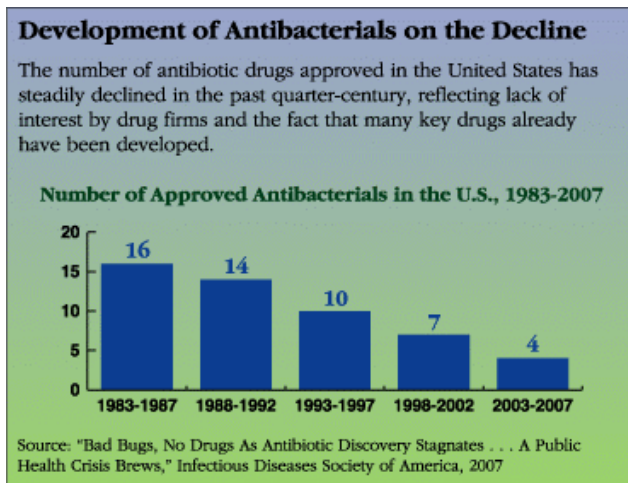
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agriculture to stave off infections among livestock herds and to encourage growth. There are concerns about the consumption of antibiotics through agricultural products and from agricultural runoff.

Additionally, recent reports indicate the presence of MRSA in some livestock.

- Dearth of development of new antibiotics. As antibacterial resistance has been on the rise, R&D for new antibiotics has been on the decline. Pharmaceutical companies have focused their research efforts on drugs for chronic conditions rather than short-term use antibiotics. Not only are antibiotics less profitable, they pose a higher burden in the approval process.
- Lack of common hygiene practices in healthcare facilities. The main mode of transmission to other patients is through human hands, especially healthcare workers' hands.



Legislative Considerations

MRSA is receiving legislative attention on several fronts. Both state and federal governments have legislation in the works regarding:

- Public reporting of hospital infection data
- Incentives for the development of new antibiotics.
- Regulation of agricultural use of antibiotics

Learn more about these in our **Read More** section.

Statistically speaking

The JAMA article reference earlier, "Invasive Methicillin-Resistant *Staphylococcus aureus* Infections in the U.S.", contains a statistical study of how the disease spreads. Read it at http://www.cdc.gov/ncidod/dhqp/pdf/ar/InvasiveMRS_A_JAMA2007.pdf

The Center for Disease Control has compressed some basic figures on its page at http://www.cdc.gov/ncidod/dhqp/ar_mrsa_surveillance_FS.html

The Michigan Department of Community Health has posted historical figures for Michigan regarding the hospital discharges for drug-resistant infections and MRSA infections for 1999-2005 at <http://www.mdch.state.mi.us/PhA/OSR/hospital/mrsa.ASP>



Safety at Home, Work and School

Safety is a concern around the world. Canada has issued material safety data sheets to help. See their sheet on INFECTIOUS SUBSTANCES (MSDS) at

<http://www.phac-aspc.gc.ca/msdsftss/msds143e.html>

Other organizations have issued frequently asked question guides and safety guides such as the following at Roanoke College <http://web.roanoke.edu/x14655.xml>
<http://web.roanoke.edu/x14652.xml>

National Institute for Occupational Safety and Health (NIOSH) offers the publication MRSA and the workplace, answering such questions as 'Can I get MRSA from someone at work?' at <http://www.cdc.gov/niosh/topics/mrsa>

Every Patient's Advocate shares an interview re: MRSA in the Community from 10/18/07, as well as hospital accountability to patients, at <http://epablog.wordpress.com/category/mrsa-and-other-hospital-acquired-infections>

Emergency planning for schools is critical. The U.S. Dept. of Education has gathered useful links for dealing with emergencies in general at <http://www.ed.gov/admins/lead/safety/emergencyplan/index.html> and for MRSA specifically at <http://www.ed.gov/admins/lead/safety/emergencyplan/index.html>

Keeping Healthy

The Center for Disease Control's guidelines for steering clear of MRSA are below.

Keep hands clean by washing thoroughly with soap and water or using an alcohol-based hand cleaner.

Keep cuts and scrapes clean and covered with a bandage until healed.

Avoid contact with other people's wounds or bandages.

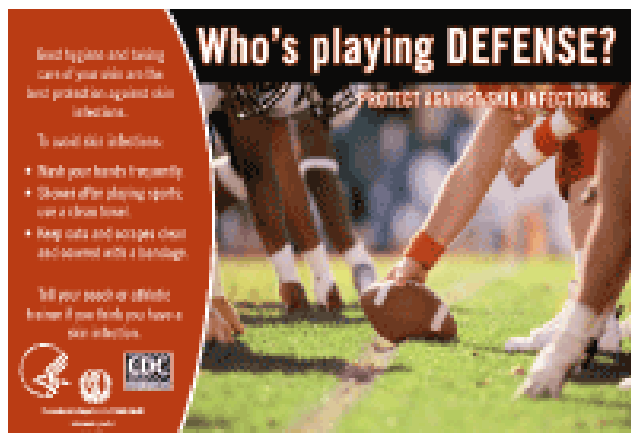
Avoid sharing personal items such as towels or razors, or cell phones.

Be especially careful about hygiene in moist, sweaty environments, like gyms.

Avoid products like special soaps and detergents that contain antibacterials like the chemical triclosan.

Don't demand that your doctor give you an antibiotic, but if one is prescribed, take it for as long as directed. Also, don't take anyone else's antibiotic.

The bottom line? Practice good hygiene!



Worth Noting

- According to the Institute of Medicine at the National Academy of Sciences, antimicrobial resistance results in \$5 billion in annual health care costs.
- Community-associated MRSA has Michigan roots; it was initially reported in 1981 among IV drug users in Detroit.
- In 1974, 2 percent of the staph bacteria found in U.S. hospitals were methicillin-resistant. By 2002, that figure had jumped to 57.1 percent, according to CDC data.
- A recent analysis published in *Clinical Infectious Diseases* found only five new antibiotics in the R&D pipeline out of more than 506 drugs in development.
- According to one industry wag, a musculoskeletal drug is worth about \$1.150 billion, a neuroscience treatment is rated at \$720 million, and a medicine for resistant Gram-positive cocci is worth only \$100 million.
- It is estimated that an aggressive R&D program initiated today would take 10 or more years and an investment of \$800 million to \$1.7 billion to bring a new drug to market.

Read More

Material for this report was culled from a number of sources. Help yourself to our reading list!

Clemmitt, M. (2007, August 24). Fighting superbugs. *CQ Researcher*, 17, 673-696. Retrieved December 5, 2007, from CQ Researcher Online. Provides an in-depth overview of the topic from background to looking forward, plus insights on legislative concerns. <http://library.cqpress.com/cqresearcher/cqresrr2007082400>

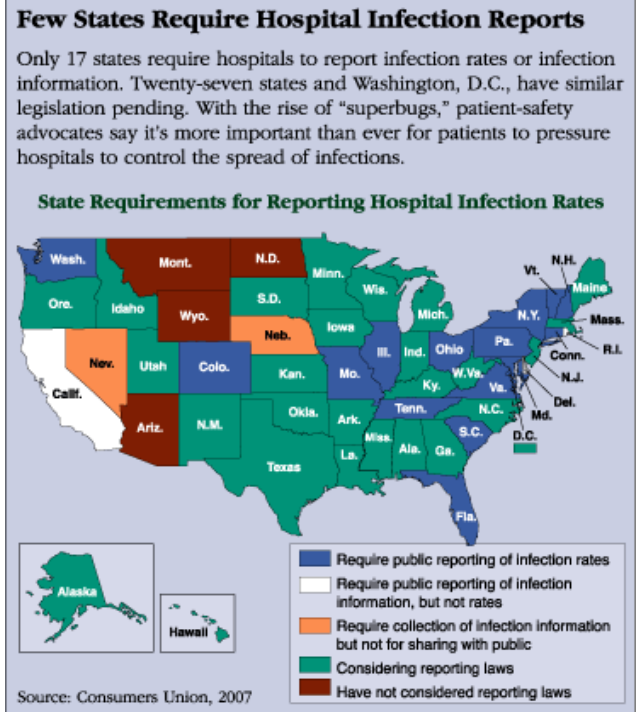
“Bad Bugs, No Drugs As Antibiotic Discovery Stagnates . . . A Public Health Crisis Brews” Infectious Diseases Society of America (IDSA) Detailed coverage of the pharmaceutical concerns pertaining to MRSA, including legislative considerations. <http://www.idsociety.org/badbugsnodrugs.html>

Patton, Z. (May 2007). Bad Bugs. *Governing*. 20(8), 50-2. A highly readable overview.
<http://www.governing.com/articles/5disease.htm>

SHEA (Society for Healthcare Epidemiology of America) and APIC's (Association for Professionals in Infection Control and Epidemiology) "Legislative Mandates for Use of Active Surveillance Cultures to Screen for MRSA and VRE". A position paper & talking points on legislating MRSA screening.
http://www.shea-online.org/news/shea_news_index.cfv?id=493

"New Study Links Animal Agriculture to More than 20% Of MRSA Infections in the Netherlands". News article on very recent report by the CDC.

<http://www.medicalnewstoday.com/articles/90525.php>



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